

93 00505  
Guido Cardini  
Deborah Lerner

# BUENA VISTA PARK EROSION CONTROL PLAN

---

THE CITY AND COUNTY OF SAN FRANCISCO  
RECREATION AND PARK DEPARTMENT

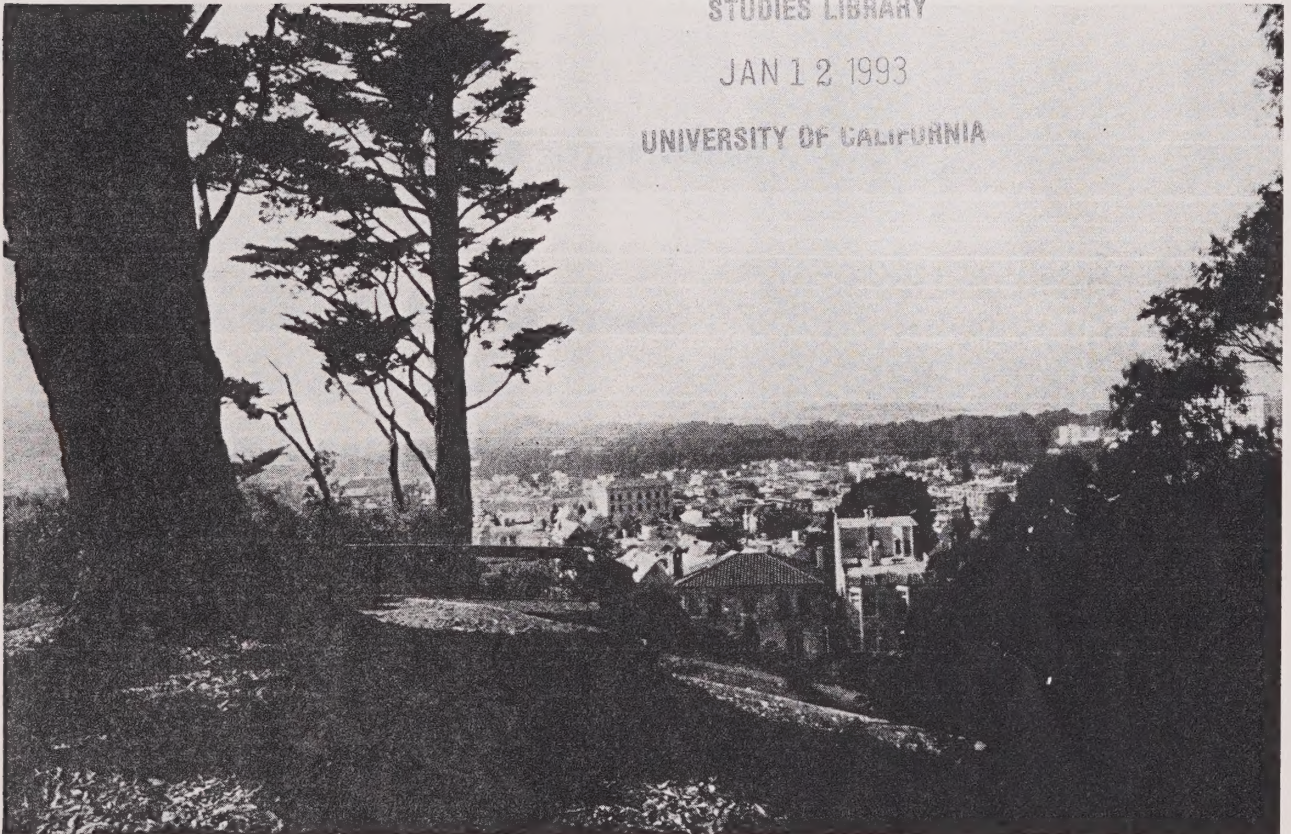
---

MARCH 1989

INSTITUTE OF GOVERNMENTAL  
STUDIES LIBRARY

JAN 12 1993

UNIVERSITY OF CALIFORNIA



PREPARED BY THE RECREATION AND PARK DEPARTMENT IN  
CONJUNCTION WITH THE DEPARTMENT OF PUBLIC WORKS





## TABLE OF CONTENTS

I.	INTRODUCTION . . . . .	.1
II.	GENERAL NOTES . . . . .	2
III.	EROSION CONTROL RECOMMENDATIONS . . . . .	5
IV.	RECOMMENDED PLANT LIST . . . . .	19
V.	RECOMMENDED GRASSES AND WILDFLOWERS . . . . .	21
VI.	FIGURES	
1.	14 Erosion Control Areas . . . . .	23
2.	Drainage System . . . . .	24
3.	Reforestation Zones . . . . .	25

# TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	GENERAL PRINCIPLES	10
III.	THEORY OF THE EXPERIMENT	20
IV.	EXPERIMENTAL PROCEDURE	30
V.	RESULTS AND DISCUSSION	40
VI.	CONCLUSIONS	50
VII.	APPENDIX	60
VIII.	REFERENCES	70
IX.	ACKNOWLEDGMENTS	80
X.	BIBLIOGRAPHY	90



## INTRODUCTION

This **Erosion Control Plan** is an outgrowth of the 1987 Master Plan for Buena Vista Park. It includes both short and long term erosion control, reforestation and maintenance procedures. In response to community and Buena Vista Park staff suggestions, native plants have been favored for reforestation work\*. Once established, such a plant palette will be relatively drought tolerant and require little maintenance. Five plant communities have been identified for long term reforestation in the park.

The **Erosion Control Plan** is divided into five parts:

1. **General Notes** outline procedures to be implemented throughout the park.
2. **Erosion Control Recommendations** are made for fourteen separate areas within the park. The areas were delineated and prioritized with regard to extent of existing erosion problems, ease of access, availability of water, and type of existing plant cover. The areas are ranked from 1 to 14 with regard to priority of effort to be expended. Each section states both short and long term goals for the area. Recommendations are made for removal or thinning of existing vegetation, stabilization practices, planting, and fencing for each area.
3. The **RECOMMENDED PLANT LIST** provides names of appropriate species with basic information on their heights, ability to withstand drought, effectiveness to act as a barrier to foot traffic, light requirements, special features, and reforestation zone for which they are appropriate. All woody species recommended are native. The grasses selected for rapid erosion control are introduced species, several native grasses are well suited to the site and have also been recommended. As their rate of establishment is somewhat slower than introduced grasses, they are recommended for long term establishment and erosion control.
4. The **Erosion Control Areas** map graphically outlines each of the fourteen areas for which specific recommendations are made.
5. The **Reforestation Zones** map graphically outlines the proposed native plant communities toward which this plan points.

\*The Recreation and Park Department is in the process of developing a policy regarding the use of "native" plant species throughout the park system.

## Introduction

This document is a report of the results of a study conducted by the author in 1978. The study was designed to investigate the effects of a new teaching method on the learning of mathematics by young children. The study was conducted in a primary school in London, and the results are presented in this report. The study was carried out over a period of six months, and the results are presented in this report. The study was carried out over a period of six months, and the results are presented in this report.

The study was carried out in a primary school in London, and the results are presented in this report.

The study was carried out in a primary school in London, and the results are presented in this report.

The study was carried out in a primary school in London, and the results are presented in this report.

The study was carried out in a primary school in London, and the results are presented in this report.

The study was carried out in a primary school in London, and the results are presented in this report.

The study was carried out in a primary school in London, and the results are presented in this report.

The study was carried out in a primary school in London, and the results are presented in this report.



## GENERAL NOTES

1. Selective canopy thinning to be done in sections 6, 7, 13, and 14. Selective canopy thinning may be required in other areas. All tree canopy work to be accomplished before other erosion work done.
2. A new 2" irrigation line with quick coupler valves at 50' on center shall be brought from the summit into the interior of the site.
3. Where acacia thinning and reforestation is undertaken, slope is divided longitudinally. Although site constraints may modify the sequenced of activities undertaken, work generally begins at bottom of slope. If section of slope is not completed before October 15, use a row of abutting, securely anchored haybales at top of cleared section to reduce down slope erosion.
4. When thinning acacias remove low branches and branches lying on ground.
5. Whenever possible, save vigorous native tree species. Eucalyptus shall be retained for slope stabilization but new plants shall not be established.
6. Wattling is typically composed of dead branches and limbs 4"-8" in diameter, mounded 18"-2' high. Wattling rows are secured in place with stakes driven 2'-3' into soil. When working on a slope, wattling placed near the top of erosion area more effectively stabilizes the slope than when placed at the bottom. On long slopes, place a series of wattle rows to keep run-off at a slow pace. Each wattle row is angled slightly to direct water down slope.
7. Backfilling behind wattling shall include incorporation of organic matter with existing, on site soils. In locations where foot traffic is to be discouraged, the top 8-12" of backfill shall be composed of twiggy material.
8. All new and existing bulkheads should have wing walls to tie structure back to slope.

ARTICLE 1

1. The purpose of this Agreement is to provide for the peaceful settlement of disputes between the Parties.

2. The Parties agree to submit to arbitration all disputes which may arise between them in connection with this Agreement.

3. The arbitration shall be conducted in accordance with the rules of procedure of the International Centre for Settlement of Investment Disputes (ICSID).

4. The arbitration shall be held in the City of New York, New York.

5. The arbitration shall be conducted in English.

6. The arbitration shall be conducted by a panel of three arbitrators.

7. The arbitration shall be conducted in accordance with the rules of procedure of the International Centre for Settlement of Investment Disputes (ICSID).

8. All costs and expenses of the arbitration shall be borne by the Parties.



9. Large gullies may be filled with tree stumps and other on-site materials which are battered back into the slope. Jute netting may be used on shoulders of large gullies to prevent further erosion.

10. Securely anchor log headers of treated 2 x 10's with stakes driven 3'-4' into soil on both sides of steps to stop water from creating gullies along their sides. Plant outside these headers to stabilize slope and guide walkers. Wattling to extend out from headers for a distance of 20' on either side of stairway.

11. Where soil is sloughing onto a.c. paths that are accessible by truck, clear soil off pathway and place granite curbs end to end along the edge of path to create new toe of slope.

12. Perennial grasses may have to be assisted in the spring of the first two years of growth to remain competitive with annual grasses and "weeds". Cut taller annuals to the height of the slower growing perennials.

13. Planting slopes of less than 30 degrees: After seeding, mulch with straw to stabilize soil while grass establishes. Slopes greater than 30 degrees: after soil is prepared for planting, 1/2 the seed sown, jute net is laid down and secured, then the other half of seed is sown. When planting leach tube and gallon can material on slopes greater than 30 degrees, cut hole in jute for planting, dig hole, and plant.

14. Herbaceous and woody plant material (max. 2' high) is intended to cover 100% of reforested slopes. Mid and upper story percentage will depend on area.

15. A California wildflower mix to be incorporated into grass seed plantings. Hydroseed area that are accessible by truck, hand broadcast seeds in all other locations. Mix to be used is outlined in the "Grass and Wildflower" section of the Plant list.

16. Soil amendment for each woody plant shall consist of 1 part composted organic matter, 3 parts soil from planting hole, and 1/3 ounce of a water retaining polymer. The three should be thoroughly mixed. (Polymers are non toxic, water retaining derivations of starch and graphite. They act like sponges in the planting hole by storing water for the plant's later use. This helps the plant through dry periods. Polymers do not affect soil structure and will degrade in 3-4 years.) A 16-20-13 granular fertilizer can be added to water basin one month after planting and should be thoroughly watered. Area surrounding plant to be covered with 2" of mulch.





17. Hydroseed slurry is composed of five elements:

Mulch. Manufactured specifically for hydroseeding. Weyerhaeuser Silva-Fiber, Conwed Hydro Mulch Fiber, or equal. Applied at a rate of 50 lbs./1,000 square feet (2,000 lbs/acre).

Tackifier. Lubricates the application of the slurry, holds the slurry down, and slows evaporation. Sentinel, Ecology Control M-Binder, or equal. Applied at a rate of 2 lbs./1,000 square feet (90 lbs/acre).

Fertilizer. In the form of ammonium phosphate, plus 15% sulphur. Analysis of 16-20-13. Applied at a rate of 12 lbs./1,000 square feet (500 lbs./acre).

Seed. Type and amounts outlined in Grass and Wildflower section of the Plant List.

Water. In sufficient quantity to provide complete and homogeneous mix of slurry components and to facilitate application without run-off.

18. Fencing shall be used selectively in sensitive areas. It's purpose is to direct pedestrian traffic and/or to restrict pedestrians from areas where work or plant establishment is underway. Fencing will remain until a plant establishment period of six months to three years is complete. In some key areas fencing or railing may remain permanently to direct foot traffic.

19. Informational signs describing the work being conducted to be placed at the direction of Rec-Park staff. Several types of signs to be employed. Signs attached to fences surrounding work area to read "Erosion control & reforestation project underway. Please stay on marked pathways." Other, more detailed informational signs explaining the long term objectives of reforestation efforts will be posted in key locations.





EROSION CONTROL RECOMMENDATIONS FOR AREA 1

**GOALS:**

**SHORT TERM.** Provide visual access throughout the area.  
Reroute foot traffic. Slope stabilization and  
filling of major gullies.

**LONG TERM.** Establish an open oak/madrone woodland.

**ACCESS:** By foot from above and below.

**WATER:** From below; limited from above.

**REMOVE:** Thin *Acacia longifolia*. Prune branches from lower 6-8',  
leaving larger, upright branches with foliage above  
6-8'.

**STABILIZE:** Wattling.

Debris dams in gullies. (Total linear feet of bulkheads  
required approximately equal to length of area-225  
feet.)

Clearing and stabilization to be carried out in  
sections parallel to slope.

Install jute netting as required.

Rebuild stairway at eastern edge of area so that it  
jogs at mid slope before reaching upper path.

Extend mid slope path to Summit road.

**PLANT:** Sow recommended grasses and wildflower mix.  
Native shrubs and trees selected by gardening staff.





EROSION CONTROL RECOMMENDATIONS FOR AREA 2

GOALS: SHORT TERM. Provide visual access throughout the area.  
Reroute foot traffic. Slope stabilization and filling of major gullies.

LONG TERM. Establish an open oak/madrone woodland. Realign foot traffic patterns.

ACCESS: By foot from above and below.

WATER: From above and below.

REMOVE: Thin *Acacia longifolia*. Prune branches from lower 6-8', leaving larger, upright branches with foliage above 6-8'.

STABILIZE: Wattling.

Debris dams in gullies. (Total linear feet of bulkheads required approximately equal to length of area-225 feet.)

Clearing and stabilization to be carried out in sections parallel to slope.

Install jute netting as required.

Rustic stairway to be considered in shortcut area between Buena Vista East and road to Summit.

Note: Bulkheads immediately west of area also to be tied back into slope.

PLANT: Sow recommended grasses and wildflower mix.  
Native shrubs and trees selected by gardening staff.  
Plantings on lower 1/5 of slope with emphasis on color and drought tolerance.





EROSION CONTROL RECOMMENDATIONS FOR AREA 3

GOALS:

SHORT TERM. "Box" stairways and pathways. Contain foot traffic.

LONG TERM. Establish coastal coniferous forest. Contain foot traffic.

ACCESS: Truck from below, foot from above.

WATER: None.

REMOVE: Thin overstory; save vigorous native species.

STABILIZE: Wattling throughout bowl with strategy to divert and slow run-off. Wattle a minimum of 20 ' each side of existing stairways. Begin this wattling from top of slope.

Heavy wattling to act as check dams down slope of where 4 trails meet in the upper part of bowl.

Place headers on sides of stairways and pathways.

Place jute netting as necessary.

Clean out drain in path at bottom of slope.

Reconstruct dutch drain. Direct dutch drain field toward area of established vegetation.

Alternative to dutch drain is to construct a series of sediment retention/check dams in the same area.

PLANT: Sow recommended grasses and wildflower mix.  
Woody shrubs and trees with seasonal color, and/or value as wildlife habitat and food source.  
Groundcovers from proposed plant list.



EROSION CONTROL RECOMMENDATIONS FOR AREA 4

**GOALS:**

**SHORT TERM.** Provide visual access throughout the area.  
Reroute foot traffic. Slope stabilization and  
filling of major gullies.

**LONG TERM.** Establish an open oak/madrone woodland.

**ACCESS:** By foot from above and below.

**WATER:** From below.

**REMOVE:** Thin overstory as needed. Save vigorous native  
species.  
Thin *Acacia longifolia*. Prune branches from lower 6-8',  
leaving larger, upright branches with foliage above  
6-8'.  
Remove dead plant material.

**STABILIZE:** Existing wattling be rebuilt.  
Add additional wattling.  
Debris dams in gullies.  
Bulkhead in deepest gully.  
Clearing and stabilization to be carried out in  
sections parallel to slope.  
Log headers to be placed on both sides of path at top  
of slope.  
Install jute netting as required.

**PLANT:** Sow recommended grasses and wildflower mix.  
Native shrubs and trees as selected by gardening staff.





EROSION CONTROL RECOMMENDATIONS FOR AREA 5

**GOALS:**

**SHORT TERM.** Provide visual access throughout the area.

**LONG TERM.** Establish coastal coniferous forest. Reroute foot traffic.

**ACCESS:** By foot from above and below.

**WATER:** Quick coupler line from above.

**REMOVE:** Thin overstory.  
Thin *Acacia longifolia*.  
Whenever possible save vigorous native tree species.

**STABILIZE:** Wattling.  
Save existing german ivy (*Senecio mikanoides*).  
Install jute netting as required.  
Encourage pockets of alternative/native groundcover.

**PLANT:** Sow recommended grasses and wildflower mix.  
Woody shrubs and trees with seasonal color, and/or value as wildlife habitat and food source.  
Establish alternate groundcovers from proposed plant list.





EROSION CONTROL RECOMMENDATIONS FOR AREA 6

**GOALS:**

**SHORT TERM.** Reroute foot traffic for slope stabilization.

**LONG TERM.** Maintain oak woodland.

**ACCESS:** By foot from below, and by truck from above.

**WATER:** From above and below.

**REMOVE:** Large Cupressus macrocarpa and all Acacia longifolia.

**STABILIZE:** Wattling or berming to divert and slow water between upper and lower paths and to discourage foot traffic below terraces.  
Secured bulkheads to create 2 intermediate flat areas.  
Install jute netting as needed.

**PLANT:** Sow recommended grasses and wildflower mix.  
Drought and shade tolerant **LOW** shrubs chosen for color.  
Barrier plantings below terraces.



EROSION CONTROL RECOMMENDATIONS FOR AREA 7

**GOALS:**

**SHORT TERM.** "Box" stairways and pathways. Contain foot traffic.

**LONG TERM.** Establish coastal coniferous forest. Contain foot traffic.

**ACCESS:** From above and below by foot.

**WATER:** None

**REMOVE:** Selective canopy thinning.  
Cover shortcut stairway in western portion of area.

**STABILIZE:** Wattling.  
Bulkhead.  
Place headers on stairs and walkways.  
Place jute netting as required.

**PLANT:** Sow recommended grasses and wildflower mix.  
Woody shrubs and trees with seasonal color, and/or value as wildlife habitat and food source.  
Groundcovers from proposed plant list.





EROSION CONTROL RECOMMENDATIONS FOR AREA 8

GOALS:

SHORT TERM. Provide visual access throughout the area. Remove poison oak.

LONG TERM. Establish low growing coastal chaparral with color.

ACCESS: From above by truck, from below by foot.

WATER: From below.

REMOVE: Thin *Acacia longifolia*. Prune branches from lower 6-8', leaving larger, upright branches with foliage above 6-8'.  
Remove dead plant material.

STABILIZE: Wattle as needed.

PLANT: Sow recommended grasses and wildflower mix.  
Woody shrubs with seasonal color, and/or value as wildlife habitat and food source. Shrubs to be spaced as to maintain visual access.  
Low growing groundcovers from proposed plant list.





EROSION CONTROL RECOMMENDATIONS FOR AREA 9

**GOALS:**

**SHORT TERM.** "Box" stairways and pathways. Contain foot traffic.

**LONG TERM.** Establish coastal coniferous forest. Contain foot traffic.

**ACCESS:** By foot from above and below.

**WATER:** None

**REMOVE:** Thin overstory.  
Thin *Acacia longifolia* on slopes over 15%. Prune branches from lower 6-8', leaving larger, upright branches with foliage above 6-8'.  
Acacias to remain on flat areas.

**STABILIZE:** Wattle to control foot traffic as well as water run-off.  
Place headers on stairs and walkways.  
Place jute netting as required.

**PLANT:** Sow recommended grasses and wildflower mix.  
Woody shrubs and trees with seasonal color, and/or value as wildlife habitat and food source.  
Groundcovers from proposed plant list.



EROSION CONTROL RECOMMENDATIONS FOR AREA 10

**GOALS:**

**SHORT TERM.** Selective removal of dead material. Establish groundcover.

**LONG TERM.** Establish an open oak/madrone woodland.

**ACCESS:** By truck from below, by foot from above.

**WATER:** From below.

**REMOVE:** Selective removal of dead material.  
Clear path next to road to summit.

**STABILIZE:** Place log bulkhead along upslope side of path.

**PLANT:** Sow recommended grasses and wildflower mix.  
Woody shrubs and trees with seasonal color, and/or  
value as wildlife habitat and food source.  
Groundcovers from proposed plant list.





EROSION CONTROL RECOMMENDATIONS FOR AREA 11

**GOALS:**

SHORT TERM. Solve structural slope problems.

LONG TERM. Solve structural slope problems.

**ACCESS:** From above and below by truck.

**WATER:** From below at restroom.

**REMOVE:** None

**STABILIZE:** Engineered, artificial toe of slope for south cliff face. Retaining wall some distance out from cliff base would be 48" high, 3' deep, and battered back into slope. Backfill retaining wall and up cliff face to reduce cliff's angle of repose.

**PLANT:** None



EROSION CONTROL RECOMMENDATIONS FOR AREA 12

GOALS:

SHORT TERM. Provide visual access throughout the area.

LONG TERM. Establish an open oak/madrone woodland.

ACCESS: By truck from below, foot from above.

WATER: From below, and both sides.

REMOVE: Thin *Acacia longifolia*. Prune branches from lower 6-8', leaving larger, upright branches with foliage above 6-8'.

STABILIZE: Strengthen and rebuild existing wattling.

PLANT: Sow recommended grasses and wildflower mix.  
Woody shrubs and trees with seasonal color, and/or  
value as wildlife habitat and food source.  
Groundcovers from proposed plant list.





EROSION CONTROL RECOMMENDATIONS FOR AREA 13

GOALS:

SHORT TERM. Establish groundcover.

LONG TERM. Establish low growing coastal chaparral with color.

ACCESS: Truck from below, foot from above.

WATER: From below.

REMOVE: Thin overstory.  
Discourage spread of iceplant.

STABILIZE: Strengthen existing wattling to control foot traffic as well as water run-off.  
Extend stairway with headers on both sides, wattle away from stairs.

PLANT: Sow recommended grasses and wildflower mix.  
Choice of other plant material depends on extent of Cupressus macrocarpa thinning and removal.



EROSION CONTROL RECOMMENDATIONS FOR AREA 14

**GOALS:**

**SHORT TERM.** "Box" stairways and pathways. Contain foot traffic.

**LONG TERM.** Establish coastal coniferous forest. Contain foot traffic.

**ACCESS:** From below by truck, above by foot.

**WATER:** None

**REMOVE:** Thin overstory.

**STABILIZE:** Wattle to control foot traffic as well as water run-off.  
Place headers on stairs and walkways.  
Place jute netting as required.

**PLANT:** Sow recommended grasses and wildflower mix.  
Woody shrubs and trees with seasonal color, and/or value as wildlife habitat and food source. (Extent of planting will depend on extent of overstory thinning.)  
Groundcovers from proposed plant list.





# RECOMMENDED PLANT LIST

PLANT NAME	HEIGHT	BARRIER	DROUGHT	EROSION	SUN/SHADE	COLOR	ACCENT	ZONE(S)	NOTES
TREES									
<i>Abies bracteata</i>	50'				S,SH			CC	
<i>Aesculus californica</i>	30-50'				S,SH	Cream	Flower	CC	
<i>Arbutus menziesii</i>	40'				S,SH	Red	Berry	CC/OM	
<i>Cercis occidentalis</i>	20'				S	Pink	Flower	CC	
<i>Cupressus macrocarpa</i>	40'				S			CC	
<i>Lithocarpus densiflora</i>	60'-90'				S			OM/RW	
<i>Pinus muricata</i>	50'				S			CC	
<i>Pinus radiata</i>	80'-100'				S			CC	
<i>Pinus sabiniana</i>	40'-50'				S			CC/OM	
<i>Pinus torreyana</i>	40'-60'				S			CC/OM	
<i>Pseudotsuga menziesii</i>	70'-100'				S			CC	
<i>Quercus agrifolia</i>	20-70'				S			OM	
<i>Quercus kelloggii</i>	30-80'				S			OM	
<i>Sequoia sempervirens</i>	50-80'				S			RW	PLANT IN SHELTERED AREA
<i>Thuja plicata</i>	100'				S,SH			CC	
<i>Umbellularia californica</i>	75'				S			CC/CH/OM/RW	

## SHRUBS AND GROUND COVERS

<i>Arctostaphylos species</i>	1'-6'		X	X	S			CC/CH/OM/RW	
<i>Jaccharis pilularis</i>	1'-2'		X		S			CH/OM	
<i>Berberis species</i>	3'-10'	X			S,PS	Red	Berry	CC/CH/OM	
<i>Blackberry</i>	3'-6'	X	X	X	S,PS			CC/CH/OM	
<i>Carpenteria californica</i>	1'-4'		X	X	S			CC/CH/OM	
<i>Ceanothus species</i>	1'-8'		X	X	S	Blue	Flower	CH/OM	
<i>Dendromecon rigida</i>	2-8'		X	X	S			CH	TEST SUITABILITY
<i>Diplacus grandiflorus</i>	1'-4'		X		S			CH	
<i>Diplacus longiflorus</i>	1'-4'		X		S			CH	
<i>Fremontodendron californicum</i>	6-20'		X		S	Yellow	Flower	CH/OM	
<i>F. 'California Glory'</i>	6-20'		X		S	Yellow	Flower	CH/OM	
<i>Garrya elliptica</i>	4-8'		X		S,PS			CC/CH/OM	
<i>Garrya fremontii</i>	4-8'		X					CC/CH/OM	
<i>Gaultheria shallon</i>	3'		X		S,SH			CC/RW	
<i>Heteromeles arbutifolia</i>	11'				S,SH	Red	Berry	CH/OM	

ZONES: CC=COASTAL CONIFEROUS CH=COASTAL LOW CHAPARRAL OM=OPEN OAK/MADROÑE WOODLAND RW=REDWOOD



SHRUBS AND GROUND COVERS (CONTINUED)

<i>Iris douglasiana</i>	1'		X		S,SH	Flower	CC/CH
<i>Mahonia species</i>	1'-6'	X	X	X	S,SH		CC/RW
<i>Myrica californica</i>	6'-25'		X		S,PS		CC/CH/OM
<i>Penstemon heterophyllus purdyi</i>	1'-2'		X		S	Blue Flower	CC/CH
<i>Pityrogramma triangularis</i>	1'		X		SH		RW
<i>Polypodium glycyrrhiza</i>	1.5'		X		SH		RW
<i>Polystichum munitum</i>	2'-4'		X		SH		RW
<i>Rhamnus californica</i>	3'-15'		X		S,PS	Red/Blk Berry	CC/CH/OM
<i>Rhamnus crocea</i>	2'-3'		X		S,PS	Red Berry	CC/CH/OM
<i>Rhamnus c. 'Illicifolia'</i>	3'-15'		X		S,PS		CC/CH/OM
<i>Rhododendron occidentale</i>	8'		X		SH	Cream Flower	CC/RW
<i>Ribes speciosum</i>	3'-6'	X	X	X	S,PS	Red Flower	CH/OM
<i>Ribes viburnifolium</i>	3'	X	X	X	S,PS	Pink Flower	CH/OM
<i>Romneya coulteri</i>	6'-8'		X	X	S	White Flower	CH
<i>Rosa californica</i>	3'-6'	X	X		S	Flower	CH/OM
<i>Rosa gymnocarpa</i>	3'-6'	X	X	X	S	Flower	CH/OM
<i>Salvia leucantha</i>	2.5'		X		S	Purple Flower	CC/CH/OM
<i>Salvia leucophylla</i>	3'		X		S	Purple Flower	CC/CH/OM

-----  
 ZONES: CC=COASTAL CONIFEROUS CH=COASTAL LOW CHAPARRAL OM=OPEN OAK/MADRONE WOODLAND RW=REDWOOD  
 -----





## RECOMMENDED GRASSES AND WILDFLOWERS

**Background:** The grasses in the plant list below were selected to cover 100% of the ground in revegetated areas.

Annual grasses are used to provide a quick, cool season ground cover that reseeds itself freely.

Perennial grasses have a longer life span, but take more time to establish themselves. They also grow in the cool season, but are green earlier and later than annuals.

Most commercial sources sell grass seed that is developed from introduced species. Their selections have a higher success rate than seeds from California native grasses. Although the grass seed recommended below is from introduced species, they have growth patterns (18" maximum height, bunch grass habit, and drought tolerance) similar to Bay Area native grasses.

Native *Deschampsia*, *Festuca*, and *Stipa* can become competitive with the introduced grasses if planted out as small plants rather than by hand seeding, or hydroseeding. All three grasses are well suited to controlling erosion in Buena Vista Park. However it is more expensive to grow the plants and plant them by hand, than to broadcast seed. For this reason we recommend that the major role of soil stabilization be fulfilled by introduced grasses planted by seed. Limited areas may be hand planted using the native grasses listed below.

### Recommendations For Broadcast Seed Mix:

<u>% Seed</u>	<u>% Plant</u>	<u>Life</u>	<u>Name</u>	<u>Sun/Shade</u>
30	60	Annual	'Zorro' Fescue	Sun
50	30	Annual	'Blando' Brome	Sun
20	10	Perennial*	'Aurora' Fescue	Shade

\* Proportion of perennials can be increased on gradual slopes and flat areas

### Recommendations For Planting From Leach Tubes:

<u>Name</u>	<u>Life</u>	<u>Height</u>	<u>Sun/Shade</u>
<i>Deschampsia caespitosa</i>	Perennial	18"	Sun
<i>Festuca californica</i>	Perennial	24"	Both
<i>Stipa pulchra</i>	Perennial	24"	Both

All grasses are selected to be compatible with wildflowers



**Wildflowers:**

"Pacific Coast Native Sunflower Mix" (Broad spectrum)	(Albright)	Sun
"Made In The Shade" (Broad spectrum)	(Albright)	Shade

**Sources for Grass and Flower Seeds**

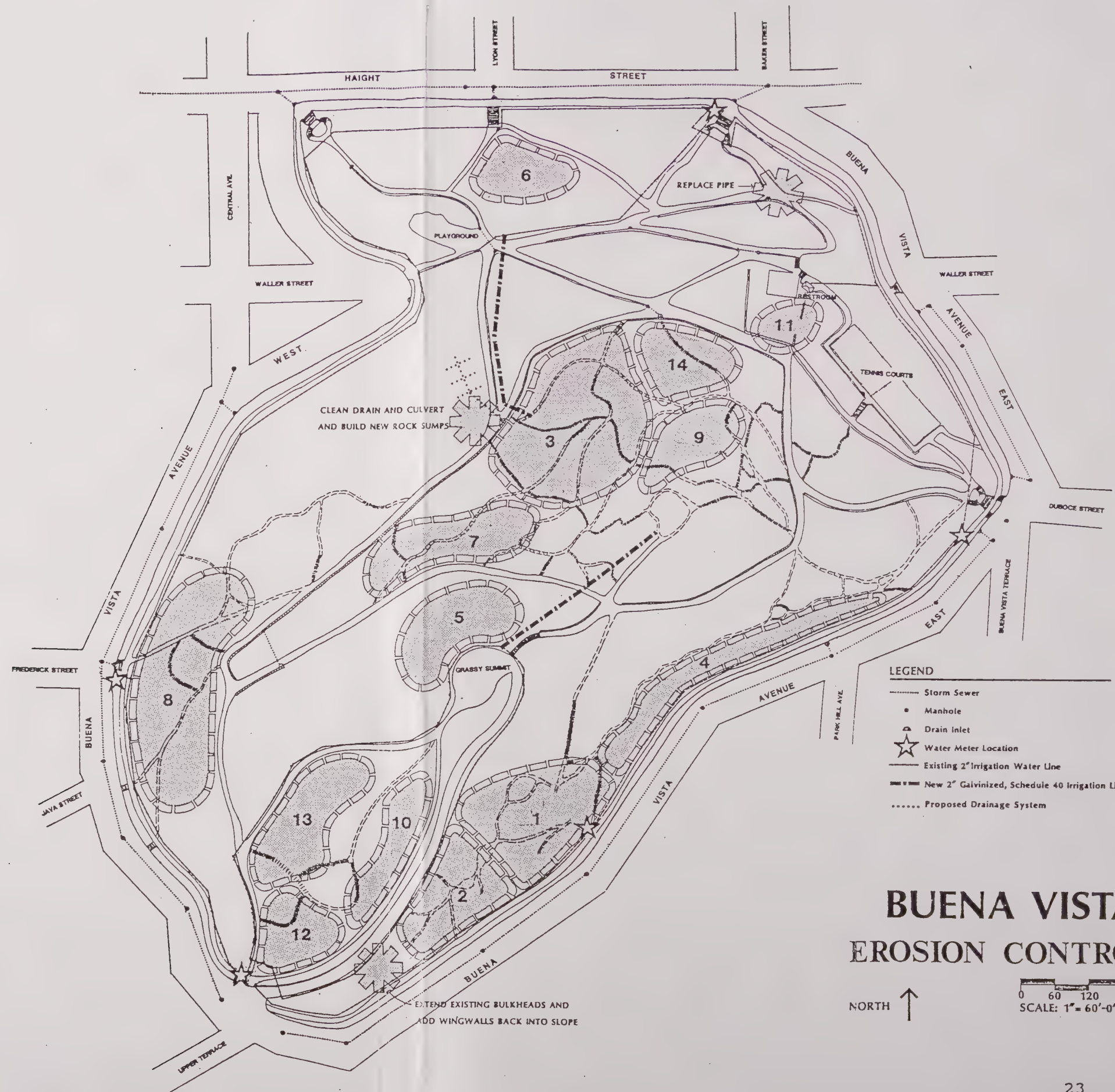
Albright & Towne	Paul Albright	1-800-423-8112
Clyde Robbins	Paul McCormick	581-3468

**Sources for Grass Grown In Leach Tubes:**

Circuit Riders	Rocky Thompson	707-838-6641
DAWN	Dave Kaplow	845-0729





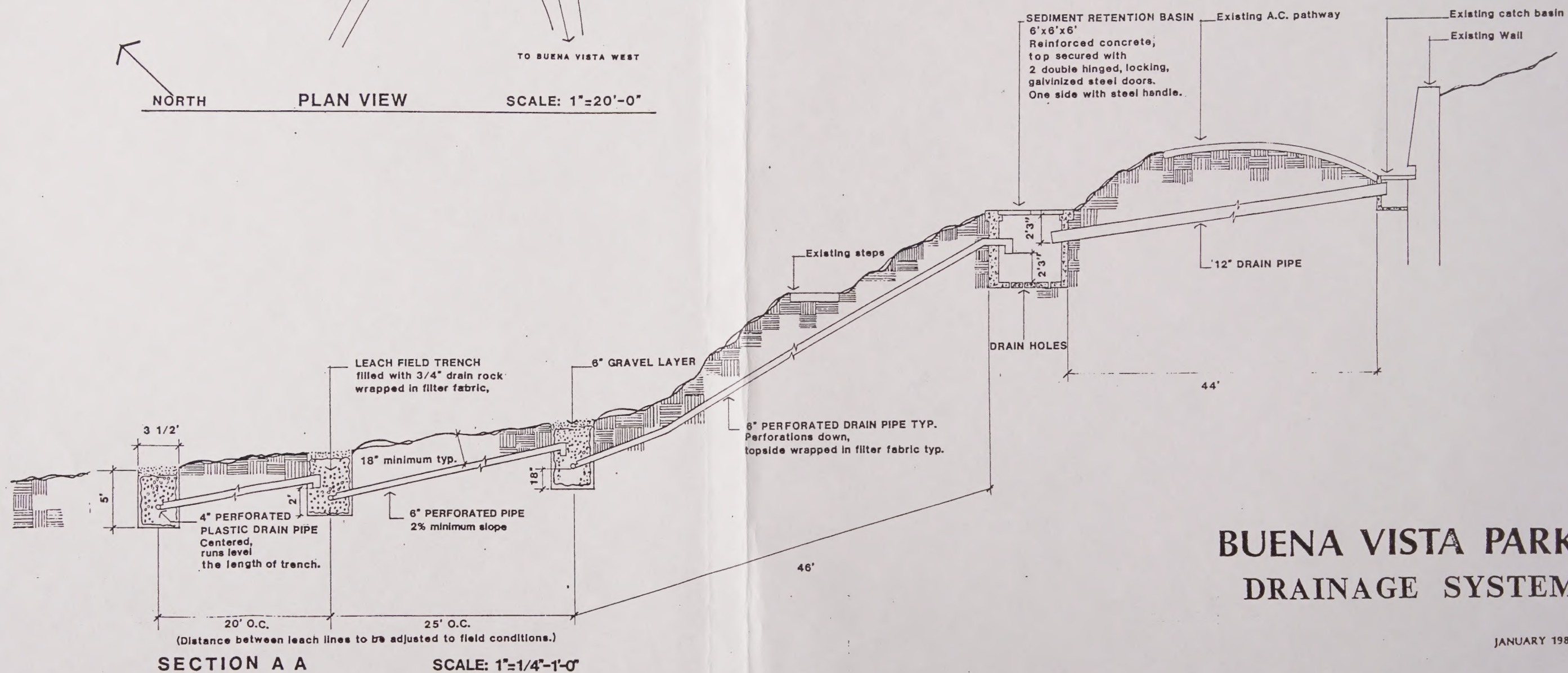
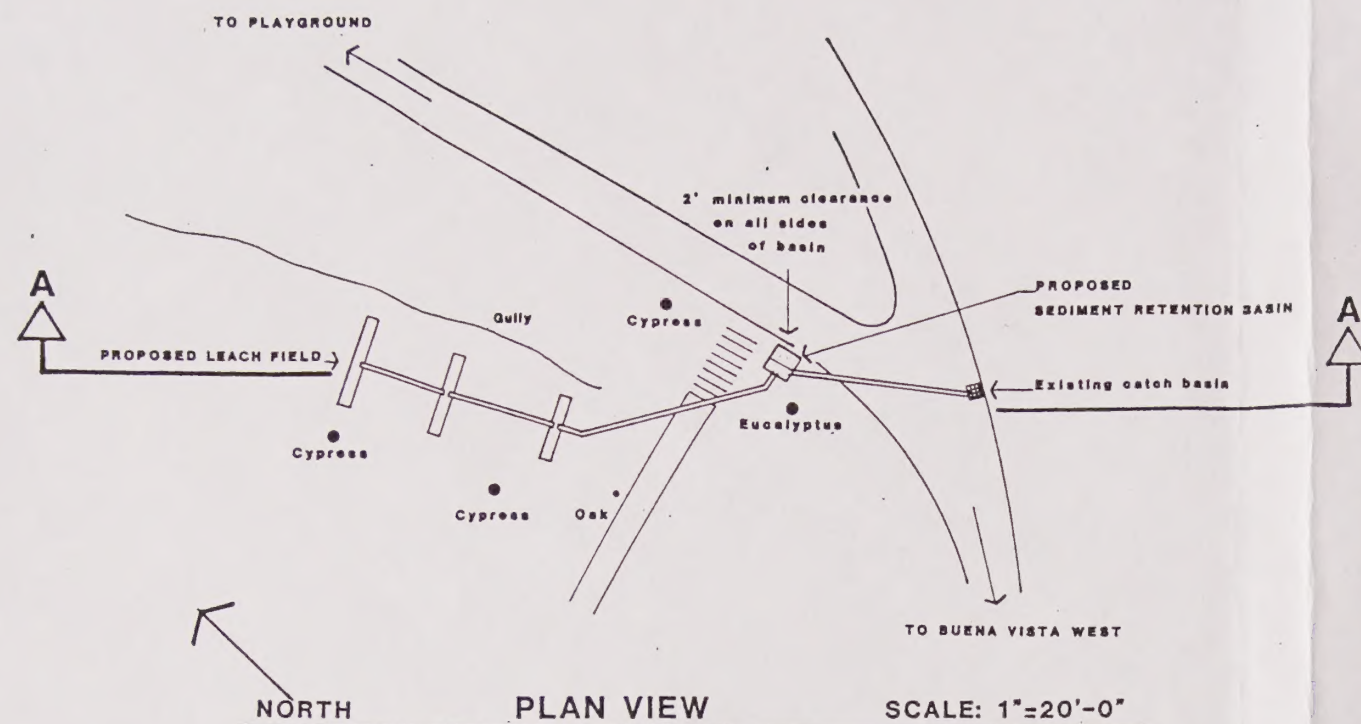


# BUENA VISTA PARK EROSION CONTROL AREAS

JANUARY 1989





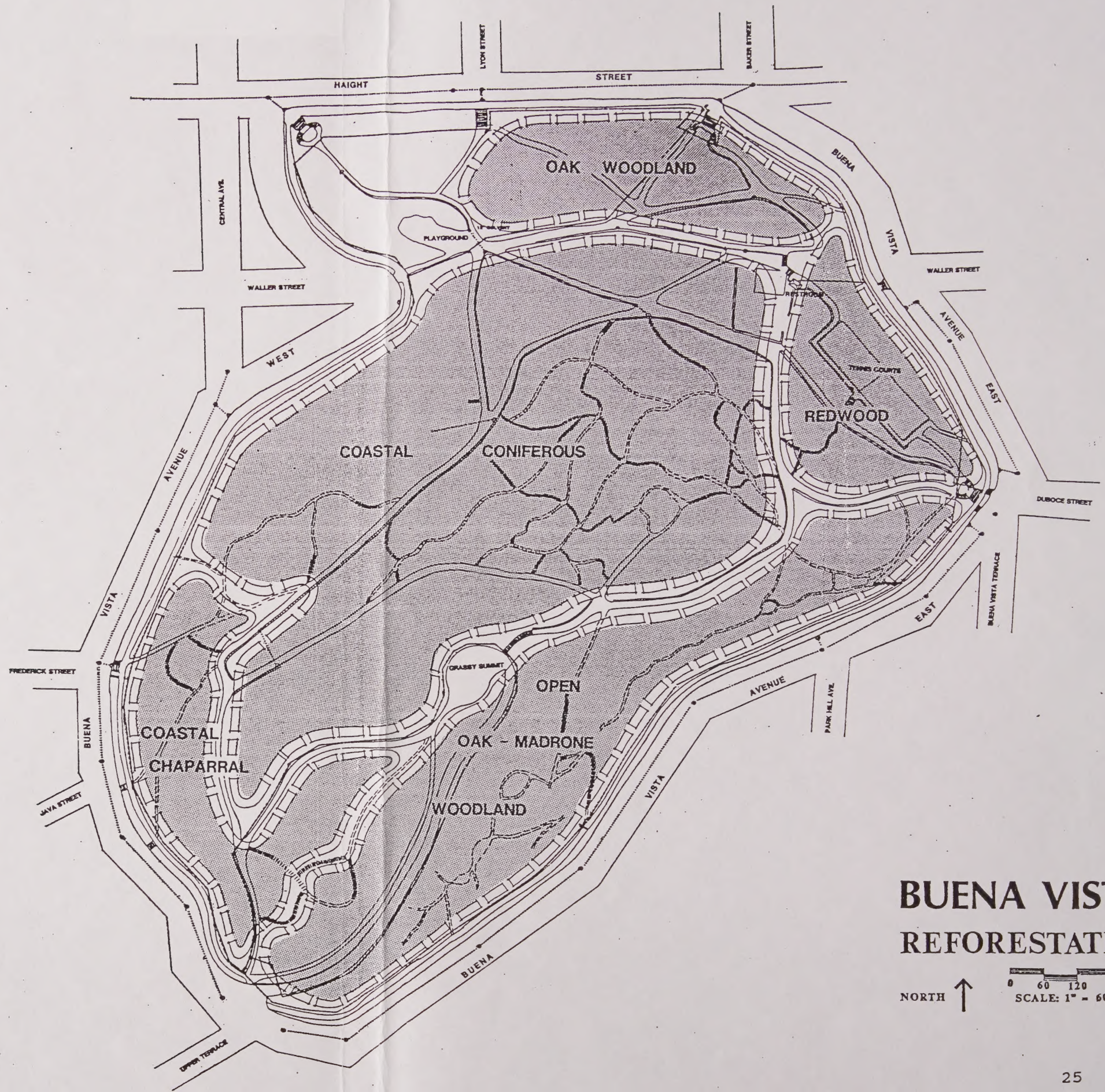


# BUENA VISTA PARK DRAINAGE SYSTEM

JANUARY 1989







# **BUENA VISTA PARK REFORESTATION ZONE**

NORTH ↑  
 SCALE: 1" = 60'-0"  
 FEBRUAR



U.C. BERKELEY LIBRARIES



C124907403

BUENA VISTA PARK  
REFORESTATION PLAN  
1991